10058 597

Freeform Search

Database: US Pre-Grant Publication Full-Text Database; US Patents Full-Text Database; US OCR Full-Text Database; EPO Abstracts Database; JPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Term: L1 and non simian

Display: 10 **Documents in Display Format:** - **Starting with Number** 1

Generate: ○ Hit List ◉ Hit Count ○ Side by Side ○ Image

Search Clear Interrupt

Search History

DATE: Tuesday, July 20, 2004 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ			
L2	L1 and non simian	3	L2
L1	transform$2 same cell same CD 151	4	L1

END OF SEARCH HISTORY

Freeform Search

Database: US Pre-Grant Publication Full-Text Database; US Patents Full-Text Database; US OCR Full-Text Database; EPO Abstracts Database; JPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Term: 6410031.pn.

Display: 10 **Documents in Display Format:** - **Starting with Number** 1

Generate: ○ **Hit List** ◉ **Hit Count** ○ **Side by Side** ○ **Image**

Search | Clear | Interrupt

Search History

DATE: Tuesday, July 20, 2004 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ			
L23	L22 and CD 151	0	L23
L22	6410031.pn.	3	L22
L21	l19 and CD151	0	L21
L20	L19 CD 151	0	L20
L19	6143880.pn.	2	L19
L18	L17 and CD 151	0	L18
L17	6110467.pn.	2	L17
L16	L15 and CD 151	0	L16
L15	6033844.pn.	2	L15
L14	l13 and cd 151	0	L14
L13	6015663.pn.	2	L13
L12	L11 and cd151	0	L12
L11	5858729.pn.	2	L11
L10	l9 and cd 151	0	L10
L9	5846805.pn.	2	L9
L8	L7 and CD151	0	L8

L7	5698203.pn.	2	L7
L6	l5 and CD 151	0	L6
L5	5695766.pn.	2	L5
L4	L3 and cd151	0	L4
L3	5587164.pn.	2	L3
L2	l1 and CD151	0	L2
L1	5510258.pn.	2	L1

END OF SEARCH HISTORY

10058597

Freeform Search

Database: US Pre-Grant Publication Full-Text Database; US Patents Full-Text Database; US OCR Full-Text Database; EPO Abstracts Database; JPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Term: L5 and simian

Display: 10 **Documents in Display Format:** - **Starting with Number** 11

Generate: ○ Hit List ◉ Hit Count ○ Side by Side ○ Image

Search | Clear | Interrupt

Search History

DATE: Tuesday, July 20, 2004 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ			
L6	L5 and simian	12	L6
L5	kumar.in.	9135	L5
L4	Shanmukhappa.pn.	0	L4
L3	L2 and simian	6	L3
L2	kapil.in.	106	L2
L1	6740490.pn.	2	L1

END OF SEARCH HISTORY

Freeform Search

Database: US Pre-Grant Publication Full-Text Database
US Patents Full-Text Database
US OCR Full-Text Database
EPO Abstracts Database
JPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Term: US-20030186236-A1.did.

Display: 10 **Documents in Display Format:** CIT **Starting with Number** 1

Generate: ○ **Hit List** ◉ **Hit Count** ○ **Side by Side** ○ **Image**

Search | Clear | Interrupt

Search History

DATE: Tuesday, July 20, 2004 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=PGPB; PLUR=YES; OP=ADJ			
L4	US-20030186236-A1.did.	1	L4
L3	US-20030186236-A1.did.	1	L3
DB=USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ			
L2	L1 and CD151	1	L2
L1	porcine reproductive and respiratory syndrome	169	L1

END OF SEARCH HISTORY

10058597

> d his

(FILE 'HOME' ENTERED AT 13:24:43 ON 20 JUL 2004)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE' ENTERED AT 13:25:10 ON 20 JUL 2004

L1	13	S	KAPIL.IN.
L2	0	S	L1 AND CD151
L3	0	S	L1 AND SIMIAN
L4	0	S	L1 AND PORCINE
L5	0	S	SHANMUKHAPPA.IN.
L6	1170	S	KUMAR.IN.
L7	6	S	L6 AND PORCINE
L8	0	S	L7 AND CD151
L9	3	DUP REM	L7 (3 DUPLICATES REMOVED)
L10	3	DUP REM	L7 (3 DUPLICATES REMOVED)

10058597

```
=> s transform##(P)cell#(P)CD 151
L1             0 TRANSFORM##(P) CELL#(P) CD 151

=> s CD 151
L2            25 CD 151

=> s l2 and transform##
L3             0 L2 AND TRANSFORM##

=> dup rem l2
PROCESSING COMPLETED FOR L2
L4            14 DUP REM L2 (11 DUPLICATES REMOVED)

=> s l14 and porcine
L14 NOT FOUND
The L-number entered could not be found.  To see the definition
of L-numbers, enter DISPLAY HISTORY at an arrow prompt (=>).

=> s 14 and porcine
L5             4 L4 AND PORCINE

=> d l5 1-4 bib ab kwic

L5   ANSWER 1 OF 4  CAPLUS  COPYRIGHT 2004 ACS on STN
AN   2003:139233  CAPLUS
DN   138:185220
TI   Interaction of cd 151/peta-3 with 3'utr rna of
     porcine reproductive and respiratory syndrome virus
AU   Shanmukhappa, Kumar S.
CS   Kansas State Univ., Manhattan, KS, USA
SO   (2002) 80 pp.  Avail.: UMI, Order No. DA3052603
     From: Diss. Abstr. Int., B 2002, 63(5), 2120
DT   Dissertation
LA   English
AB   Unavailable
TI   Interaction of cd 151/peta-3 with 3'utr rna of
     porcine reproductive and respiratory syndrome virus
IT   Genetic element
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (3'-untranslated region; interaction of CD 151
        /PETA-3 with 3'UTR RNA of porcine reproductive and
        respiratory syndrome virus)
IT   CD antigens
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (CD151; interaction of CD 151/PETA-3 with 3'UTR RNA
        of porcine reproductive and respiratory syndrome virus)
IT   Molecular association
     Sus scrofa domestica
     Swine infertility and respiratory syndrome virus
        (interaction of CD 151/PETA-3 with 3'UTR RNA of
        porcine reproductive and respiratory syndrome virus)
IT   Viral RNA
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (interaction of CD 151/PETA-3 with 3'UTR RNA of
        porcine reproductive and respiratory syndrome virus)

L5   ANSWER 2 OF 4  CAPLUS  COPYRIGHT 2004 ACS on STN
AN   2002:744572  CAPLUS
DN   138:120753
TI   Cloning and identification of MARC-145 cell proteins binding to 3' UTR and
     partial nucleoprotein gene of porcine reproductive and
     respiratory syndrome virus
AU   Shanmukhappa, Kumar; Kapil, Sanjay
CS   Department of Diagnostic Medicine-Pathobiology, College of Veterinary
```

Medicine, Kansas State University, Manhattan, KS, 66506, USA
SO Advances in Experimental Medicine and Biology (2001), 494(Nidoviruses (Coronaviruses and Arteriviruses)), 641-646
CODEN: AEMBAP; ISSN: 0065-2598
PB Kluwer Academic/Plenum Publishers
DT Journal
LA English
AB RNA ligand screening of a MARC cell expression library was used to identify the cellular proteins that bind to 3'-UTR of **porcine** reproductive and respiratory syndrome virus (PRRSV). The RNA binding property of a tetraspanin mol., **CD 151**, was also reported. This mol. also renders BHK-21 cells susceptible to PRRSV infection. The **CD 151** is a transmembrane glycoprotein, belonging to the tetraspanin or transmembrane 4 superfamily of cellular proteins. These have four highly conserved hydrophobic domains spanning the lipid bilayer, two extracellular domains between them. PRRSV is reported to replicate in MARC, MA 104, CL 2621, and primary cell cultures of alveolar macrophages. The BHK-21 cells lack **CD 151** by RT-PCR and immunohistocytochem. But the stable transfected BHK-21 cells expressing the **CD 151** become permissive to PRRSV. It was proposed that the **CD 151** through the interaction with the RNA of 3'UTR PRRSV might act as the viral RNA transporter mol. into the cell.
RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
TI Cloning and identification of MARC-145 cell proteins binding to 3' UTR and partial nucleoprotein gene of **porcine** reproductive and respiratory syndrome virus
AB RNA ligand screening of a MARC cell expression library was used to identify the cellular proteins that bind to 3'-UTR of **porcine** reproductive and respiratory syndrome virus (PRRSV). The RNA binding property of a tetraspanin mol., **CD 151**, was also reported. This mol. also renders BHK-21 cells susceptible to PRRSV infection. The **CD 151** is a transmembrane glycoprotein, belonging to the tetraspanin or transmembrane 4 superfamily of cellular proteins. These have four highly conserved hydrophobic domains spanning the lipid bilayer, two extracellular domains between them. PRRSV is reported to replicate in MARC, MA 104, CL 2621, and primary cell cultures of alveolar macrophages. The BHK-21 cells lack **CD 151** by RT-PCR and immunohistocytochem. But the stable transfected BHK-21 cells expressing the **CD 151** become permissive to PRRSV. It was proposed that the **CD 151** through the interaction with the RNA of 3'UTR PRRSV might act as the viral RNA transporter mol. into the cell.
ST CD151 **porcine** reproductive respiratory syndrome virus RNA 3UTR binding
IT Genetic element
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(3'-untranslated region; cloning and identification of MARC-145 cell proteins binding to 3' UTR and partial nucleoprotein gene of **porcine** reproductive and respiratory syndrome virus)
IT CD antigens
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(CD151; cloning and identification of MARC-145 cell proteins binding to 3' UTR and partial nucleoprotein gene of **porcine** reproductive and respiratory syndrome virus)
IT Molecular cloning
Swine infertility and respiratory syndrome virus
Virulence (microbial)
(cloning and identification of MARC-145 cell proteins binding to 3' UTR and partial nucleoprotein gene of **porcine** reproductive and respiratory syndrome virus)
IT Viral RNA

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(cloning and identification of MARC-145 cell proteins binding to 3' UTR and partial nucleoprotein gene of **porcine** reproductive and respiratory syndrome virus)

L5 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:594870 CAPLUS
DN 137:153383
TI CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, non-simian recombinant cell line for propagation of the virus and as a target for antiviral compounds
IN Kapil, Sanjay; Shanmukhappa, Kumar
PA Kansas State University Research Foundation, USA
SO PCT Int. Appl., 77 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002060924	A2	20020808	WO 2002-US2868	20020129
	WO 2002060924	A3	20021017		
	WO 2002060924	C2	20021205		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2003165814	A1	20030904	US 2001-772044	20010129
	US 6740490	B2	20040525		
PRAI	US 2001-772044	A	20010129		

AB **Porcine** reproductive and respiratory syndrome virus (PRRSV) causes serious economic losses in swine. The present invention determined that CD151 (also known as platelet-endothelial cell tetraspan antigen-3, PETA-3) is a susceptibility factor for PRRSV infection by transfecting a cell line which is not susceptible to PRRSV infection (BHK-21) with CD151, which rendered the cell line susceptible. Because CD151 can be accessed in cellular material including blood platelets and germ plasm, the present invention provides a non-invasive method of screening different swine for susceptibility to PRRSV, thereby improving breeding plans. In the case of a valuable animal, results from such screening can indicate any offspring's susceptibility to PRRSV. Addnl., the viral RNA-CD151 interaction possesses high affinity and can be used as a tool to detect antiviral compds. which can be further improved by using combinatorial chemical Accordingly, antiviral compds. that can block the viral RNA-**CD 151** interaction can be developed. Advantageously, transfection of CD151 into non-simian cell lines can confer susceptibility to PRRSV and these recombinant cell lines can be used for preparation of biologics that will avoid simian cell lines which could be a source of primate viruses in xenotransplanted organs from pigs. Finally, the present inventions describes the basic mechanism by which the virus RNA enters a target cell. This novel class of proteins is termed viral RNA entry proteins and a novel class of compds. named anti-RNA Entry Proteins can be used to block the entry of viral RNA, thereby preventing viral infections.

TI CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, non-simian recombinant cell line for propagation of the virus and as a

target for antiviral compounds

AB **Porcine** reproductive and respiratory syndrome virus (PRRSV) causes serious economic losses in swine. The present invention determined that CD151 (also known as platelet-endothelial cell tetraspan antigen-3, PETA-3) is a susceptibility factor for PRRSV infection by transfecting a cell line which is not susceptible to PRRSV infection (BHK-21) with CD151, which rendered the cell line susceptible. Because CD151 can be accessed in cellular material including blood platelets and germ plasm, the present invention provides a non-invasive method of screening different swine for susceptibility to PRRSV, thereby improving breeding plans. In the case of a valuable animal, results from such screening can indicate any offspring's susceptibility to PRRSV. Addnl., the viral RNA-CD151 interaction possesses high affinity and can be used as a tool to detect antiviral compds. which can be further improved by using combinatorial chemical Accordingly, antiviral compds. that can block the viral RNA-**CD 151** interaction can be developed. Advantageously, transfection of CD151 into non-simian cell lines can confer susceptibility to PRRSV and these recombinant cell lines can be used for preparation of biologics that will avoid simian cell lines which could be a source of primate viruses in xenotransplanted organs from pigs. Finally, the present inventions describes the basic mechanism by which the virus RNA enters a target cell. This novel class of proteins is termed viral RNA entry proteins and a novel class of compds. named anti-RNA Entry Proteins can be used to block the entry of viral RNA, thereby preventing viral infections.

IT Animal cell line
Antiviral agents
Breeding, animal
Cercopithecus aethiops
Drug screening
High throughput screening
Immunoassay
Molecular cloning
Retroviral vectors
Sus scrofa domestica
Swine infertility and respiratory syndrome virus
Vaccines
(CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Viral RNA
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Gene, animal
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Antigens
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(PETA-3; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Proteins
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)

(RNA-binding; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT PCR (polymerase chain reaction)
(RT-PCR (reverse transcription-PCR), assay; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Proteins
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(anti-RNA entry; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Immunoassay
(enzyme-linked immunosorbent assay; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT cDNA sequences
(for CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus in swine and simian)

IT Diagnosis
(immunodiagnosis; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Recombination, genetic
(integration, chromosomal; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Endocytosis
(modulation of; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Protein sequences
(of CD151 antigen for host susceptibility factor for **porcine** reproductive and respiratory syndrome virus in swine and simian)

IT DNA sequences
(of CD151 gene for host susceptibility factor for **porcine** reproductive and respiratory syndrome virus in swine and simian)

IT Genetic polymorphism
(single nucleotide; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT 253623-54-0, GenBank AW314209 265762-94-5, GenBank AW786379
278421-43-5, GenBank BE233265
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT 444953-15-5
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleotide sequence; CD151 host susceptibility factor for

porcine reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation f the virus and as target for antiviral compds.)

IT 381287-00-9, GenBank AF275666
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleotide sequence; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT 444953-16-6 444953-17-7 444953-18-8 444953-19-9 444953-20-2
444953-21-3 444953-22-4 444953-23-5 444953-24-6 444953-25-7
444953-26-8 444953-27-9 444953-28-0 444953-29-1 444953-30-4
444953-31-5 445052-98-2
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleotide sequence; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding.)

IT 444985-26-6 444985-27-7 444985-28-8 444985-29-9 444985-30-2
444985-31-3
RL: PRP (Properties)
(unclaimed nucleotide sequence; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding.)

IT 444985-18-6, 2: PN: WO02060924 SEQID: 5 unclaimed DNA 444985-19-7, 3: PN: WO02060924 SEQID: 6 unclaimed DNA
RL: PRP (Properties)
(unclaimed nucleotide sequence; cD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding)

IT 444985-20-0, 4: PN: WO02060924 SEQID: 7 unclaimed DNA 444985-21-1, 6: PN: WO02060924 SEQID: 9 unclaimed DNA 444985-22-2 444985-23-3
444985-24-4 444985-25-5
RL: PRP (Properties)
(unclaimed nucleotide sequence; cD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding.)

IT 444886-49-1
RL: PRP (Properties)
(unclaimed sequence; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding.)

L5 ANSWER 4 OF 4 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2004:282879 BIOSIS
DN PREV200400283606
TI Identification and applications of **porcine** reproductive and respiratory syndrome virus host susceptibility factor(s) for improved swine breeding.
AU Kapil, Sanjay [Inventor, Reprint Author]; Shanmukhappa, Kumar [Inventor]
CS Manhattan, KS, USA
ASSIGNEE: Kansas State University Research Foundation
PI US 6740490 May 25, 2004
SO Official Gazette of the United States Patent and Trademark Office Patents, (May 25 2004) Vol. 1282, No. 4. http://www.uspto.gov/web/menu/patdata.html . e-file.
ISSN: 0098-1133 (ISSN print).
DT Patent
LA English
ED Entered STN: 9 Jun 2004
Last Updated on STN: 9 Jun 2004

AB **Porcine** reproductive and respiratory syndrome virus (PRRSV) causes serious economic losses in swine. The present invention determined that **CD 151** is a susceptibility factor for PRRSV infection by transfecting a cell line which is not susceptible to PRRSV infection (BHK-21) with **CD 151**, which rendered the cell line susceptible. Because **CD 151** can be accessed in cellular material including blood platelets and germplasm, the present invention provides a non-invasive method of screening different swine for susceptibility to PRRSV, thereby improving breeding plans. In the case of a valuable animal, results from such screening can indicate any offspring's susceptibility to PPRSV. Additionally, the viral RNA-**CD 151** interaction possesses high affinity and can be used as a tool to detect anti-viral compounds which can be further improved by using combinatorial chemistry. Accordingly, anti-viral compounds that can block the viral RNA-**CD 151** interaction can be developed. Advantageously, transfection of **CD 151** into non-simian cell lines can confer susceptibility to PRRSV and these recombinant cell lines can be used for preparation of biologics that will avoid simian cell lines which could be a source of primate viruses in xenotransplanted organs from pigs. Finally, the present invention describes the basic mechanism by which the virus RNA enters a target cell. This novel class of proteins is termed viral RNA entry proteins and a novel class of compounds named anti-RNA Entry Proteins can be used to block the entry of viral RNA, thereby preventing viral infections.

TI Identification and applications of **porcine** reproductive and respiratory syndrome virus host susceptibility factor(s) for improved swine breeding.

AB **Porcine** reproductive and respiratory syndrome virus (PRRSV) causes serious economic losses in swine. The present invention determined that **CD 151** is a susceptibility factor for PRRSV infection by transfecting a cell line which is not susceptible to PRRSV infection (BHK-21) with **CD 151**, which rendered the cell line susceptible. Because **CD 151** can be accessed in cellular material including blood platelets and germplasm, the present invention provides a non-invasive method of screening. . . the case of a valuable animal, results from such screening can indicate any offspring's susceptibility to PPRSV. Additionally, the viral RNA-**CD 151** interaction possesses high affinity and can be used as a tool to detect anti-viral compounds which can be further improved by using combinatorial chemistry. Accordingly, anti-viral compounds that can block the viral RNA-**CD 151** interaction can be developed. Advantageously, transfection of **CD 151** into non-simian cell lines can confer susceptibility to PRRSV and these recombinant cell lines can be used for preparation of. . .

IT Methods & Equipment

porcine reproductive and respiratory syndrome virus host susceptibility factor identification method: laboratory techniques; swine breeding improvement: clinical techniques

=>